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THE FOREIGN EXCHANGES

SUMMARY

Rate of exchange between two moneys part of a larger problem, 52.—Conditions requisite to equilibrium of exchange, 53.—Exceptions (1) government control, (2) monopoly, 54.—Connection between different commodities in international exchange, 56.—The effect of inconvertible paper, 62.—Purchasing power parities, 63.—Lapses from alignment between actual and normal rates of exchange, 70.

1. THE rate of exchange between two moneys, e. g., dollars and sterling, is measured by the amount of sterling in England that will exchange against a claim for the immediate payment of a dollar in America. It is thus a particular example of something much more general. Just as there is a rate of exchange between dollars and sterling, so there is also a rate of exchange between lead in England and iron in America, tho it does not happen that documents embodying this rate of exchange are drawn up and quoted on the market. Exchanges between the moneys of different countries are in practice affected by bills at six months, bills at three months, bills payable on demand and telegraphic transfers. When one buys with sterling a bill for dollars that will only yield dollars after an interval, the price paid must obviously include an item for interest, and is not, therefore, made up altogether of the pure sterling price of dollars. Even when a bill is payable at sight, a person who buys it for sterling in London cannot obtain dollars from the person on whom it is drawn until it has been sent to New York. Thus, the sterling price of a sight bill for dollars in London is made up of the pure

price of the bill *plus* about a week's interest. It follows that sales of sight bills for dollars against sterling in London and sales of sight bills for sterling against dollars in New York will not indicate exactly equal rates of exchange between sterling and dollars. With telegraphic transfers, however, the element of interest is eliminated. Contemporaneous interchanges between sterling and dollars effected by these means are bound, except for momentary deviations, to take place at the same rate in whichever country they are made: for, if in New York the rate were \$4.80 to the pound and in London \$4.70, operators in arbitrage would immediately sell sterling for dollars in New York and buy sterling with dollars in London, and would continue to find profit in doing this until the two rates were adjusted. Hence, the pure rate of exchange between sterling and dollars prevailing at any moment can be properly spoken of as a single thing, without reference to the place at which the exchange is made: and the same thing, of course, is true of the pure rate of exchange between *any* two moneys. It is with this single rate of exchange that the following pages are concerned. It is proposed to investigate (1) the conditions of exchange equilibrium, (2) the influences under which the equilibrium position or, more briefly, the norm of exchange, may be altered, (3) the causes and consequences of different sorts of lapses from alignment between actual exchange rates and the current norm of exchange, and (4) government interference with the exchanges.

2. The conditions requisite to the existence of exchange equilibrium are easily generalized as follows. Consider any commodity whatever that is in use in both of two countries. The commodity may (1) flow from country A to country B, or (2) flow from country B to country A, or (3) not flow in either direction. For any

commodity that does flow, exchange equilibrium requires, in general and subject to two exceptions which will be considered immediately, that a unit in the country of export shall buy a claim in the country of import to a unit *minus* the cost in transport, taxes, loss of interest and so forth involved in sending a unit there. For the present purpose the interest element, which obviously varies with the time required for effecting transportation, is unimportant and may be neglected. For any commodity that does not flow between the two countries exchange equilibrium requires that a unit in one country shall exchange for a claim on a number of units in the other, not less than one unit *minus* the cost of transportation (including taxes) outwards, and not more than one unit *plus* the cost of transportation inwards. These two costs of transportation may, of course, be different. So far as they are due to import or export duties, they are pretty certain to be different, and, even apart from taxation, they will very likely be different, since there is no necessity for out and home freight rates to be equal.

3. It was said above that this analysis is subject to two exceptions. The reason is that it depends on two assumptions. These are that, if some stuff is being sold in one market at a better profit than in another market, people (1) *will be able to* and (2) *will desire to*, divert units of the stuff from the less to the more profitable market, until the discrepancy between them is destroyed. These assumptions are not always justified.

First, it sometimes happens that a government permits the import or the export of a commodity up to a certain amount under a system of licenses, but forbids import or export in excess of a defined maximum. That is to say, would-be sellers are *not able* to divert their stuff, after a point, from the less to the more profitable

market. In these circumstances, if the commodity is flowing in quantities less than the permitted maximum, that maximum has no effect. But, if it is flowing up to the maximum, it is no longer true that exchange equilibrium requires a unit in the exporting country to be capable of buying a claim to a unit *minus* the cost of transportation in the importing country. Further units could only be sent at an infinite cost. Hence, all that exchange equilibrium requires is that a unit in the exporting country shall buy a claim in the importing country to *not more than* a unit *minus* the cost of transporting one of such units as are in fact transported. Since the cost of transporting further units is made by the government prohibition infinite, a unit in the exporting country can buy a claim in the importing country in any quantity less than this, without violating the conditions of exchange equilibrium. Thus, when a definite limit was established to the amount of coal that might be exported from England, a ton of coal in England might have exchanged against a claim for as little as, say, a hundredweight or even an ounce of coal in Sweden.

Secondly, when the production of a commodity in one of two trading countries is in the hands of a monopolist, this monopolist, tho *able* to divert his stuff from a market yielding less to one yielding more profit, may not *desire* to do so. For the transference of a unit from the foreign market, where, we may suppose, a lower profit is being made, would not only lead to that unit being sold on better terms than before, but would also lead to the other units proffered in the home market having to be sold on worse terms, and, under certain conditions, the loss would exceed the gain. This is merely another way of stating the familiar proposition that a monopolist can sometimes make his largest aggregate

profit by discriminating in price between two markets. In these conditions a unit in the exporting country may exchange against a claim to more than a unit in the importing country in spite of the fact that the process of import involves costs.

4. Up to this point we have considered conditions of equilibrium as regards single commodities separately. We have now to take account of the links between them. Houses in England and theatres in America, being both non-transportable, may, so far as they alone are concerned, exchange against one another at practically any rate without violating the conditions of exchange equilibrium. Moreover, if *everything* in England is non-transportable to America and *vice versa*, *any* rate of exchange between English houses and American theatres will be an equilibrium rate, not merely so far as these things are concerned, but absolutely. As between the Earth and Mars, for example, there cannot be any lapse from equilibrium, whatever the rate of interchange between *anything* on the Earth and claims to *anything* on Mars. Equilibrium, in short, is represented, not by a single point, but by a range of (in this case) unlimited length. If, however, any one thing flows in the course of trade between two places, equilibrium requires that a unit of that thing in the exporting country shall exchange against a claim to a single definite quantity of that thing in the other country; and, since the transportable thing must exchange at a definite rate against any other thing in each country, there must also be a single definite rate of exchange between any given thing in one of the two countries and claims to any given thing in the other. Thus, if lead is traded between England and America, so that an ounce of lead in England buys a claim to a definite quantity of lead in America, then, since houses in England exchange against a def-

inite quantity of lead in England and theatres in America exchange against a definite quantity of lead in America, the rate at which, in equilibrium, houses in England must exchange against a claim to theatres in America is definite and determined. Thus, let D , S , and W be three commodities, of which W is, but D and S are not capable of being transported. In America one unit of W exchanges for p_d unit of D . In England one unit of W exchanges for p_s unit of S . Then, apart from discriminating monopoly, if no cost is involved in transferring W between England and America, it is necessary for equilibrium that one unit of W in America shall exchange for a claim to one unit of W in England. Hence, we have the equations:

$$\begin{aligned} 1 \text{ unit of } W \text{ in America} &= p_d \text{ units of } D \\ 1 \text{ unit of } W \text{ in England} &= p_s \text{ units of } S \\ 1 \text{ unit of } W \text{ in America} &= 1 \text{ unit of } W \text{ in England} \\ \therefore p_d \text{ units of } D &= p_s \text{ units of } S \end{aligned}$$

If one unit of W in America is worth a claim, not to one unit but to $(1 + m)$ units of W in England, it is easily seen, by an extension of the above reasoning, that p_d units of D must exchange against $(1 + m)p_s$ units of S . It follows that, since, in ordinary times *something* is practically certain to be flowing, either directly or indirectly, between England and America, equilibrium in respect of each several item, whether or not it itself is flowing, will be satisfied by one rate only.

5. This result is perfectly general, whatever the commodities involved are. Given the relative values of any W and any D in America, the relative values of this W and any S in England and the value of this W in America in terms of itself in England, it is always possible to deduce the equilibrium rate of exchange between D in America and S in England. When, therefore, we make D and S represent dollars and sterling,

we have not to do with something special and peculiar, but merely with one example of a large class of kindred phenomena. The result can be set out formally as follows. Adjustment being made for cases of discriminating monopoly, equilibrium requires that, if there is a commodity flowing freely without cost from England to America with sterling price p_s' and dollar price p_d' , the number of dollars (R) that exchange for one £ sterling shall be $\frac{p_s'}{p_d'}$. If there is a commodity flowing from England to America at such cost that m units of it are absorbed in the process of movement, and its dollar and sterling prices are p_d'' and p_s'' ,

$$R = (1 + m) \frac{p_s''}{p_d''}$$

If there is a commodity that is flowing in the opposite direction at a cost of movement represented by n units, and its dollar and sterling prices are p_d''' and p_s''' ,

$$R = (1 - n) \frac{p_s'''}{p_d'''}$$

If there is a commodity that is not flowing in either direction but the costs of movement are as above, R may, so far as the direct relations between money and that commodity are concerned, lie anywhere between

$$(1 + m) \frac{p_s''''}{p_d''''} \text{ and } (1 - n) \frac{p_s''''}{p_d''''}$$

But this does not mean that R is indeterminate; it is already determined, as p_s'''' and p_d'''' themselves are determined, by its relation with the prices of the things that do flow.

6. Before we proceed further it is important to make clear what precisely this exchange equilibrium, whose conditions we have been investigating, is. There is no equilibrium if (apart from discriminating monopoly) it

is possible, by buying dollars with sterling and then buying American goods with dollars, to obtain and to bring to England for sale there any single American good at a less sterling cost than that good could be bought for in England: and there is no equilibrium if, apart from discriminating monopoly, it is possible to send any single English good to America and make, by selling it there, a larger sterling profit than is obtainable by selling it in England. When either of these things is possible, there is a discord between exchange rates and relative price levels, which nature abhors and will endeavor strenuously to correct. When, however, neither of these things is possible, there is a sort of equilibrium — an equilibrium on the surface — which, for the purpose of this discussion, I call exchange equilibrium. But note precisely what this means. It means only that nobody can gain by diverting a unit of any kind of product, that might have been sold in the English market, to the American market, or *vice versa*. Suppose that by some “accident” a dollar comes to exchange for 20 per cent more sterling than it used normally to do. The immediate effect is that an English seller of, say, woolen cloth gets 20 per cent more sterling for sales in America than for sales in England. So long as this state of things goes on, there is no equilibrium of any sort. Exchange equilibrium will, however, be restored as soon as the extra export stimulated by better profit has raised sterling prices in England sufficiently to destroy the difference between the profit on foreign and that on home sales. This adjustment would in all ordinary circumstances take place fairly quickly. But the fact of its taking place gives no guarantee that *industrial equilibrium* has been restored. The woolen industry and other export industries in England may be left, as a result of the new conditions, in the enjoyment of ab-

normal profits on *both* their foreign *and* their home sales, relatively to the main body of English industry. Industrial equilibrium is wanting until this form of inequality also has been corrected. Moreover, even when industrial equilibrium, in the sense of a balance between export industries and other industries, has been restored, there may still be wanting that yet more fundamental equilibrium, under which the return to capital invested in industries in general does not differ very widely between different countries. This distinction between exchange equilibrium and other deeper forms of equilibrium has been somewhat obscured in recent discussions of "purchasing power parities." It should be clearly understood that exchange equilibrium does not imply (tho, of course, it is not incompatible with) any further equilibrium.

7. Let us now suppose that conditions are established under which exchange equilibrium between dollars and sterling is represented by a rate of \$4.86 to the pound; and let us consider in what way it may be possible for the position of equilibrium—or the norm of exchange—to be shifted to a different rate. It is important to notice that no such shifting is made necessary by a change in the relative values of the goods we import and the goods we export. It may happen for a variety of reasons that British stuff comes to be exchanged on better or on worse terms against American stuff. This implies a rise both in the sterling and in the dollar price of British stuff as compared with American stuff. But exchange equilibrium is only disturbed if the dollar price of something (that enters into trade) is altered as compared with the sterling price: and a relative movement in both the dollar and the sterling prices of different things does not involve that. Nor is exchange equilibrium directly affected even tho the sterling prices of

things that enter into international trade are shifted relatively to the dollar prices, provided that the shifting is only such as to correspond with alterations in transport or customs charges. In order that the norm of exchange may be moved it is necessary that the sterling and dollar prices of traded goods should alter relatively to one another, in such a way that, if the rate of exchange remained unaltered, there would be an opportunity for profit by diverting goods from the foreign market to the home market, or *vice versa*. This can only come about on any large scale through an alteration, in one of the two trading countries, in the *general* relation between money and things. Thus, all sterling prices would tend to be pushed up either by a diminution in the volume of things dealt in during the year, or by an increase in the volume of the currency, or by an increase, through improved banking methods and so on, in the efficiency of the currency. Such movements would call for a lower rate of exchange between sterling and dollars as a condition of exchange equilibrium.

8. As between two countries, in both of which there is an effective gold standard, it is not possible for the general relation between money and things to be altered in one of them to any large extent without a more or less corresponding alteration being induced in the other. The reason, of course, is that, if the value of gold falls in one of them in terms of things that enter into trade and does not fall in the other, it becomes profitable to export gold from the country of raised prices. As a result of the gold movements prices in that country are lowered again, and prices in the other country raised. This adjusting process renders it impossible for the new norm of exchange to diverge from the old one beyond the limits set by the export and

import specie points.¹ If, however, one of the two countries has an inconvertible paper currency the range of possible divergence is not limited in that way. The price level in one of the two countries is free to move relatively to that of the other to almost any extent, and the norm of exchange has a correspondingly wide range. Theoretical limits are fixed by the value which a country's (say England's) money substance, when demonetized, would have in American money and the value which America's money substance, when demonetized, would have in English money. Thus, Bradburys could not fall in terms of dollars to a value below that of the paper content of Bradburys *minus* the cost of carrying the paper to America. A limit of this character is, for practical purposes, equivalent to no limit at all.²

9. Our analysis must now be brought into relation with the doctrine of "purchasing power parities," which Professor Cassel's publications have made prominent. This doctrine, as enunciated by its author, contains two parts: one, as it were, positive and the other comparative.

The positive part of the doctrine may be set out in its

1. Before the war it was sometimes believed that equilibrium, as between two countries with effective gold standards, required, not merely a rate of exchange somewhere within the specie points, but a rate definitely corresponding to Mint par, that is to say, a rate such that an ounce of gold in one currency exchanged against a claim on an ounce of gold in the other. That is easily shown to be a delusion. For, suppose that neither gold nor silver flow between A and B. Then, if an ounce of gold in A will exchange against an ounce of gold in B, it is impossible that an ounce of silver in A should exchange against an ounce of silver in B, unless the value of gold in terms of silver in A is exactly the same as the value of gold in terms of silver in B, and it is obviously not necessary, or even likely, that this condition will be satisfied. Hence, if Mint par for gold gives exchange equilibrium, Mint par for silver will not; and money may be made equally well of the one as of the other of these metals.

2. For practical purposes, so far as *falls* in exchange are concerned, Bradburys may be regarded as inconvertible paper money. For, tho they are technically convertible into sovereigns, sovereigns may not be either melted or exported, with the result that the nexus between them and uncoined bullion, and, therefore, that between Bradburys and uncoined bullion, is destroyed. A Bradbury could not, however, rise in value above the gold content of the sovereign, because gold may still be freely imported, and the Bank, or, more strictly, the Mint must buy all gold offered to it at £3.17.9 per ounce.

author's words thus: "Our willingness to pay a certain price for foreign money must ultimately and essentially depend on the fact that this money has a purchasing power as against commodities and services in the foreign country. On the other hand, when we offer so and so much of our own money we offer in fact a purchasing power against commodities and services in our own country. Our valuation of a foreign money will, therefore, essentially depend on the relative purchasing power of the currencies of both countries."³ If a pound will buy four times as much in England as a dollar will buy in America, purchasing power parity is attained when the rate of exchange between dollars and pounds is as four to one. This purchasing power parity "represents the true equilibrium of the exchanges. It is to this we have to refer when we wish to get an idea of the real value of the currencies, whose exchanges are subject to arbitrary and sometimes wild fluctuations."⁴ In short, subject to the reservation that there are no "one-sided" obstacles to trade, that rate of exchange which makes the internal and external purchasing powers of sterling, as calculated by Professor Cassel, equal, is the equilibrium rate, or norm, of exchange.

The comparative part of the doctrine takes as a starting point some period in which exchange equilibrium is assumed to prevail. For this period we put the index number of American dollar prices and of English sterling prices both at 100. In both countries prices in any future year are expressed in numbers that bear to 100 the ratio that prices then bear to prices in the base period. The figure representing dollar prices is divided into the figure representing sterling prices. The quotient, multiplied by the rate of exchange that ruled

3. *The World's Monetary Problems*, p. 36.

4. *Ibid.*, p. 38.

in the base period, gives, according to Professor Cassel's comparative doctrine, the norm of exchange proper to the new year. In short, whereas the positive doctrine asserts that exchange will be in equilibrium at any time if the rate then ruling makes the external and internal purchasing powers of sterling equal, the comparative doctrine asserts that, if we start from a position of equilibrium and conditions alter, the consequent *change* in the norm of exchange will be proportionate to the *change* in the ratio between sterling and dollar prices. It is obvious that, if the positive doctrine is true, the comparative doctrine must be true also; but, if the positive doctrine is false, the comparative doctrine may, nevertheless, be true.

10. If it were the fact that all commodities produced in either of two countries flowed without cost between them, Professor Cassel's positive doctrine would follow immediately. But a large number of commodities not only fail to flow without cost but do not flow at all. There is no necessity, in order that exchange equilibrium may be established, for the internal purchasing power of sterling in respect of these commodities to be the same as its external purchasing power. A recent report of the United States Tariff Commission finds: "Such products as wheat, copper, and cotton have about the same gold price the world over, after due allowance is made for the cost of transportation and artificial restraints of trade. On the other hand, there are many commodities, such as articles of fashion or peculiar foodstuffs which rarely enter into international trade, whose prices are adjusted locally with little reference to the price of similar commodities in foreign countries. A third class of products occupies an intermediate stage with respect to international price adjustments. Examples of these are specialized textile

fabrics, aluminum ware, and highly wrought manufactured goods of various sorts.”⁵ There is no reason to expect that the prices of the various sorts of non-traded and partially-traded goods will bear the same ratio to the prices of traded goods in different countries. Consequently, there is no ground for assuming that, even in the absence of one-sided obstacles to trade, the rate of exchange which conforms to purchasing power parity, as defined by Professor Cassel, will be identical with, or even in the close neighborhood of, the equilibrium rate. The positive doctrine of purchasing power parities cannot, therefore, be maintained without reservations and qualifications so extensive as practically to destroy it.

11. Tho, however, Professor Cassel has formally asserted the positive doctrine, the general trend of his writings makes it clear that the comparative doctrine is the thing to which he really attaches importance. This doctrine is not open, except in comparatively slight degree, to the objection that has just been urged against the positive doctrine. It is true that, as between two periods that are being compared, the prices of non-traded goods in one country *may* have moved up or down relatively to the prices of traded goods, tho no corresponding movement has taken place in the other country. But there is no general ground for expecting that this sort of change will take place, at all events over short periods, on any large scale. On the other hand, in so far as price movements are brought about by currency causes, there is definite ground for expecting that traded and non-traded goods will move more or less parallel to one another. Hence, the inclusion of non-traded goods in Professor Cassel’s calculations does not much impair the value of the calculations as

5. Depreciated Exchange and International Trade (U. S. Tariff Commission), p. 3.

indices of *changes* in the norm of exchange. The comparative doctrine of purchasing power parities thus passes the preliminary test, before which the positive doctrine broke down. Nobody would contend, however, that the indications it affords are more than approximate: and it is, therefore, desirable to distinguish, so far as may be, the principal ways in which, if followed uncritically, it is liable to mislead.

12. Professor Cassel has himself called attention to the consequences of introducing, between the base period and the period under investigation, one-sided obstacles to trade. These will not cause any appreciable change in the norm, or equilibrium rate, of exchange: but they will cause an appreciable change in purchasing power parity. Suppose, for example, that a tax is imposed on goods entering America from England, and no corresponding tax is imposed on goods entering England from America. English export goods will rise in price in America relatively to England, and no corresponding change will take place in American export goods. This means that dollar prices of goods in general in America rise relatively to sterling prices of goods in general in England: that is to say, the rate of exchange representing purchasing power parity is altered in the sense that a dollar is worth less stuff, as compared with sterling, than before. The same thing happens if export duties enhance the cost of sending English goods to America and there is no corresponding obstruction to the sending of American goods to England. The same thing happens again if a subsidy is accorded to cheapen American goods coming to England and there is nothing to balance it on the other side.

Professor Cassel implies that, if the obstacles imposed upon trade are two-sided, this shifting of the purchasing power parity, in the face of a steady norm of exchange,

will not take place. In certain circumstances that is true. If English export goods in America play the same part in determining the index number of general prices in America that American export goods in England play in determining the index number of general prices there, the imposition of similar import or export duties in the two countries may be expected to leave the ratio between the two index figures substantially unchanged. But the condition on which this result depends is not always satisfied. If, for example, the only English export good was coal and this exchanged abroad for a hundred different sorts of imports, all of which were reckoned as of equal weight with coal in both the English and the foreign index numbers used in our enquiries, a 10 per cent foreign tax on all exports *plus* a 10 per cent English tax on all exports would involve a much larger rise in the English than in the foreign index number, thus implying a shift in purchasing power parity. In like manner, if the imports of a country are of such a sort that transport charges play a large part in their value, while the exports are of such a sort that these charges play only a small part, a general rise in transport charges both ways will cause the index number of home prices to rise more than the index number of foreign prices, and so will bring about a change in purchasing power parity.

This reference to the technique of index numbers suggests yet another point. Imagine for a moment conditions such that changes in the ratio between the index numbers of sterling and of dollar prices would truly measure changes in the norm of exchange, *if* the index numbers were really based on the prices of all sorts of commodities. We have then to observe that the prices which enter into actual index numbers are not all prices, but a narrowly limited sample of them — a sample the

scope of which is determined by the existence or otherwise of price statistics accessible in, and comparable between, different periods. Any actual index number, therefore, is liable to "error," in the sense that the changes it indicates may be different from the changes that a complete index number would record. It is not possible to determine in any general way the magnitude of the error that should be reckoned with. But that it is substantial is shown by the large differences that emerge when different index numbers, among those now commonly employed, are used to make the same calculation. Thus, in August, 1920 as against 1913, American prices as calculated for the Bradstreet index number had risen 25 per cent more than American prices as calculated for the Bureau of Labour index number: and English prices as calculated for the Board of Trade index number had risen 9 per cent more than English prices as calculated for the *Statist* index number. Variations of this sort in different index numbers are, of course, carried over into the measures of change in purchasing power parity that are built on them. It follows that estimates of alterations in the norm of exchange, based on calculations of purchasing power parity, cannot, at best, be more than very rough approximations.

13. We have now to consider lapses from alignment between the actual rate of exchange and the norm of exchange — lapses, which under an effective gold standard cannot in general pass beyond the specie points, but under paper standards have no fixed limits. Such lapses may occur either because, the norm of exchange being given, the actual exchange rate has been twisted away from it, or, because, the actual exchange rate being established at the norm, conditions have come about which destroy that norm and establish a

new one. These two sorts of lapses have now to be described in turn. We may take first lapses due to a twisting of the actual rate of exchange away from an established norm.

At each moment there are certain debts falling due for immediate payment by Englishmen in dollars. These payments absolutely must be made somehow on pain of bankruptcy, so that, from the point of view of the moment, the English demand for dollars is always very inelastic; and the same thing applies (we may simplify the exposition by neglecting three-cornered trade and so forth) to the American demand for sterling. In these circumstances if the quantity of dollar bills on the market is not sufficient to enable English debtors to meet their obligations in America, some Englishmen with debts to pay will have to obtain command over dollars either by selling securities abroad, or by borrowing abroad, or by selling gold, or by selling the actual money of their own country (if this is not gold) abroad. The extent to which these expedients have to be relied on at any moment will be greater, the wider is the gap at that moment between the flow of debts and the flow of claims coming to maturity. It may be large, because, for example, a country's imports are being brought in now while her exports mainly take place at a later season, or because a past debt is falling due for payment, or because an installment of an indemnity that has not been fully prepared for is falling due, or for some more special reason. Given the extent of the gap between debts and claims that has to be filled at any moment, the extent to which the exchange will move against a country depends upon the difficulty and cost involved in obtaining command over dollars by the various expedients summarized above. Plainly, if gaps have been recurring continually for a long

period, the securities available for sale abroad, the credit that enables foreign loans to be raised and the stocks of exportable gold will have been more and more depleted, so that the difficulty of filling each successive gap is greater than the difficulty of filling the preceding one, and the exchange moves more and more against us. Similarly, if paper money has been sold abroad again and again to fill recurrent gaps, foreign speculators will reckon more and more on a continuing depreciation of this paper and their appetite for further purchases of it, except on extraordinarily favorable terms, will become sated. Consequently, so long as these gaps go on recurring the actual rate of exchange falls further and further below the current norm. If the government by decree bars resort to one or other of these expedients for obtaining dollars — if, for example, it bars the sale of securities abroad or the export of gold — the cost and difficulty of getting dollars will be increased and the exchange will be driven down still further.

Lapses from alignment between actual exchange and the norm of exchange due to an alteration of the norm itself *may* come about if an expansion of currency and credit in one country raises the general price level there while no corresponding movement takes place in other countries. In these circumstances the norm of exchange *must* be altered, and, consequently, alignment *must* be disturbed unless the actual rate of exchange is altered in the same act by direct process. It is sometimes asserted that the actual rate of exchange *cannot* be altered by direct process, but only through an expansion of imports and contraction of exports,⁶ involving, incidentally, a purchase of goods by the country with the expanded currency in exchange for securities or loan scrip. It does not seem to me that this is necessary.

6. This view is suggested, tho with guarding phrases, in Mr. Keynes' The Revision of the Treaty, p. 93.

Suppose that, owing to an expansion of paper money, the English price level in sterling (gold export being prohibited) doubles. Then importers and exporters will both know that if American stuff is to exchange on the same real terms as before against English stuff — and there is no reason for anybody to accept different real terms — a dollar must buy twice as much sterling as before. In these circumstances both sides may be ready at once to accept these new terms without any mediating movement of trade. Foreseeing what must happen very shortly, if this mediating movement takes place, they may make it happen forthwith without the movement being called for. If they do not do this, there will be an alteration in the net ratio of interchange between the goods of the two countries, for which a new monetary change in one of them is not a sufficient cause. If they do do it, no question of the effect of a lapse from alignment can arise, because, owing to the synchronous movement of the norm of exchange and the actual rate of exchange, no lapse has occurred. In practice, however, I do not deny that lack of foresight on the part of traders will generally interfere with a perfect parallelism of movement, so that, as a matter of fact a currency expansion in one of the countries is likely to be responsible for *some* lapse from alignment.

14. Whenever there is a lapse from alignment, however caused, between the actual rate of exchange and the norm of exchange, there are automatically called into play corrective influences. The citizens of the country whose exchange is depreciated below the norm can make more profit by selling their goods abroad than at home, while foreigners, on the contrary, can make more profit by selling theirs in their own country than in the country of depreciated exchange. Hence, exports from that country will tend to increase and imports to

diminish, with the result that claims on dollars (in terms of which we are supposing the other exchange to have depreciated), come to be created at a greater rate relatively to debts in dollars than was happening before. If, hitherto, a country, whose exchange has become depreciated below the norm, has been obtaining goods abroad by borrowing, it is discouraged from doing this any longer: if, hitherto, trade has been balanced, it is impelled to sell goods abroad against securities or promises to pay. These processes continue until alignment is restored, and a new equilibrium is established under which, very probably, the relative values of import and export goods in both countries are somewhat different from what they were before. Conditions are, indeed, conceivable in which the corrective influences would not work. We can imagine a country the demand for whose goods abroad is so inelastic that an enlarged export of them would yield a smaller, and not a larger, claim to dollars. If that country had no imports available for reduction, but the whole of its foreign trade consisted, for example, of exports sent out to purchase the means of paying an annual dollar indemnity, the fall in exchange would not set forces in motion to close the gap of future indebtedness. But these abnormal conditions are exceedingly unlikely to be realized. In general —the glaring exceptions of the moment need not be particularized — the fall of actual exchange rates below the norm is not only a *sign* that trade is out of balance, but also an effective agency for bringing it back to balance.

15. The period during and since the war has afforded many examples of action taken by governments with the object of interfering with and modifying the working of this agency. Among these examples we may distinguish between (1) action designed to reduce the gap of immediate indebtedness, which is responsible for

making exchange fall below the norm, and (2) action designed to prevent the corrective influences, which a fall below the norm, when it has taken place, sets in motion, from operating along certain routes, or, possibly, from operating at all. These two sorts of action have now to be studied in turn.

Action designed to reduce the gap of immediate indebtedness by direct process embraces prohibitions against the export of capital, that is, against the turning of resources, which might have been used to pay for imports, into foreign investments, and prohibitions against the import of luxuries. The object of these devices is so secure that the gap of indebtedness, which would otherwise be closed *eventually* by blind forces, shall be closed *immediately*, or at all events as soon as possible, by a force that is intelligent and can perceive differences in social advantage where money profits are the same. The technique of these devices is described at length in the volume of the League of Nations papers, prepared for the Brussels Financial Conference, entitled *Exchange Control*. The most obvious devices are direct prohibitions against certain classes of imports and against the export of capital generally. But, as a rule, it is also found necessary to adopt other measures with a view to preventing evasion of these prohibitions. Thus, exporters of goods or securities are compelled to hand over the proceeds of their sales in foreign currency to a central exchange institution, which, in turn, sells exchange to importers of permitted imports. Unless some arrangement of this kind is made, it is impossible to insure that the proceeds of export or security sales will not, in one way or another, come to be invested abroad. It should be observed that, while a policy of stopping the export of capital *must*, if successful, improve the current, tho not necessarily the ultimate, trade balance, a policy of

restricting imports *may*, in conceivable, tho improbable, conditions, defeat itself, by causing resources to be withdrawn from the manufacture of export goods, in order to make substitutes for the extruded imports, to such an extent that the export side of the trade balance is lowered more than the import side. Apart from this, however, government action of the above types should prove *pro tanto* effective in bringing the actual rate of exchange nearer to the current norm.

Action designed to obstruct the operation of the corrective influences which a fall in exchange below the norm sets in motion, sometimes takes the form of governmental prohibition against the export of certain things which their owners would be tempted to send abroad under the influence of the low exchange, and the sending of which would help to fill up the gap of immediate indebtedness. Thus, many countries, fearing the exhaustion of their stocks, have prohibited the export of gold; and certain countries, with exchange rates much below the norm, have prohibited the export of certain necessary goods. The idea behind these prohibitions is that there are certain things the loss of which would constitute so great a social disaster that it is impossible in any circumstances to sacrifice them. Thus, apart from export prohibitions, Germany was threatened with a selling-out of essential instruments and materials of her industries, of which the end must have been ruin and starvation. It was imperative to hold firmly to these things. To do so, however, necessarily meant a still further depreciation of the mark exchange below the current norm, and, therewith, a further lowering of the real price at which those German goods that it was still permissible to export sold against foreign goods.

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